



#5

# SEQUENCE LISTING

<110> Padigaru, Muralidhara  
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 Ile Arg Thr Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Ile Gly  
 50 55 60  
 Asn Leu Ser Phe Leu Asp Phe Trp Tyr Thr Ser Val Tyr Thr Pro Lys  
 65 70 75 80  
 Ile Leu Ala Ser Cys Val Ser Glu Asp Lys Arg Ile Ser Leu Ala Gly  
 85 90 95

Cys Gly Ala Gln Leu Phe Phe Ser Cys Val Val Ala Tyr Thr Glu Cys  
100 105 110

Tyr Leu Leu Ala Ala Met Ala Tyr Asp Arg His Ala Ala Ile Cys Asn  
115 120 125

Pro Leu Leu Tyr Ser Gly Thr Met Ser Thr Ala Leu Cys Thr Gly Leu  
130 135 140

Val Ala Gly Ser Tyr Ile Gly Gly Phe Leu Asn Ala Ile Ala His Thr  
145 150 155 160

Ala Asn Thr Phe Arg Leu His Phe Cys Gly Lys Asn Ile Ile Asp His  
165 170 175

Phe Phe Cys Asp Ala Pro Pro Leu Val Lys Met Ser Cys Thr Asp Thr  
180 185 190

Arg Val Tyr Glu Lys Val Leu Leu Gly Val Val Gly Phe Thr Ala Leu  
195 200 205

Ser Ser Ile Leu Ala Ile Leu Ile Ser Tyr Val Asn Ile Leu Leu Ala  
210 215 220

Ile Leu Arg Ile His Ser Ala Ser Gly Arg His Lys Ala Phe Ser Thr  
225 230 235 240

Cys Ala Ser His Leu Ile Ser Val Met Leu Phe Tyr Gly Ser Leu Leu  
245 250 255

Phe Met Tyr Ser Arg Pro Ser Ser Thr Tyr Ser Leu Glu Arg Asp Lys  
260 265 270

Val Ala Ala Leu Phe Tyr Thr Val Ile Asn Pro Leu Leu Asn Pro Leu  
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Ile Tyr Ser Leu Arg Asn Lys Asp Ile Lys Glu Ala Phe Arg Lys Ala  
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Thr Gln Thr Ile Gln Pro Gln Thr  
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<212> DNA

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ccatgtactt tttcctgagc cacttatcct tcgtggatct gtgcttctct tccaatgtga 300
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actgtgcgga cccaccactg attaagctgg cttgttctga cacctacaac aaggagtgtg 660
caatgtttat tgtggctggc tggaaccttt ctttttctct cttcatcata tgtatttcct 720
acctttacat tttccctgct attttaaaga ttcgctctac agagggcagg caaaaagctt 780
tttctacctg tggctcccat ctgacagctg tcactatatt ctatgcaacc cttttcttca 840
tgtatctcag acccccctca aaggaatctg ttgaacaggg taaaatggta gctgtatttt 900
ataccacagt aatccctatg ctgaacctta taatttatag ccttagaaat aaaaatgtaa 960
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<210> 14

<211> 332

<212> PRT

<213> Homo sapiens

<400> 14

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Met Leu Leu Leu Tyr Cys Asn Pro Ile Tyr Met Lys Ser Ser Phe Leu
  1                      5                      10                      15

Pro Pro Lys Glu Ile Met Arg Arg Asn Cys Thr Leu Val Thr Glu Phe
      20                      25                      30

Ile Leu Leu Gly Leu Thr Ser Arg Arg Glu Leu Gln Ile Leu Leu Phe
      35                      40                      45

Thr Leu Phe Leu Ala Ile Tyr Met Val Thr Val Ala Gly Asn Leu Gly
      50                      55                      60

Met Ile Val Leu Ile Gln Ala Asn Ala Trp Leu His Met Pro Met Tyr
      65                      70                      75                      80

Phe Phe Leu Ser His Leu Ser Phe Val Asp Leu Cys Phe Ser Ser Asn
      85                      90                      95

Val Thr Pro Lys Met Leu Glu Ile Phe Leu Ser Glu Lys Lys Ser Ile
      100                      105                      110

Ser Tyr Pro Ala Cys Leu Val Gln Cys Tyr Leu Phe Ile Ala Leu Val
```

115	120	125
His Val Glu Ile Tyr Ile Leu Ala Val Met Ala Phe Asp Arg Tyr Met		
130	135	140
Ala Ile Cys Asn Pro Leu Leu Tyr Gly Ser Arg Met Ser Lys Ser Val		
145	150	155
Cys Ser Phe Leu Ile Thr Val Pro Tyr Val Tyr Gly Ala Leu Thr Gly		
165	170	175
Leu Met Glu Thr Met Trp Thr Tyr Asn Leu Ala Phe Cys Gly Pro Asn		
180	185	190
Glu Ile Asn His Phe Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ala		
195	200	205
Cys Ser Asp Thr Tyr Asn Lys Glu Leu Ser Met Phe Ile Val Ala Gly		
210	215	220
Trp Asn Leu Ser Phe Ser Leu Phe Ile Ile Cys Ile Ser Tyr Leu Tyr		
225	230	235
Ile Phe Pro Ala Ile Leu Lys Ile Arg Ser Thr Glu Gly Arg Gln Lys		
245	250	255
Ala Phe Ser Thr Cys Gly Ser His Leu Thr Ala Val Thr Ile Phe Tyr		
260	265	270
Ala Thr Leu Phe Phe Met Tyr Leu Arg Pro Pro Ser Lys Glu Ser Val		
275	280	285
Glu Gln Gly Lys Met Val Ala Val Phe Tyr Thr Thr Val Ile Pro Met		
290	295	300
Leu Asn Leu Ile Ile Tyr Ser Leu Arg Asn Lys Asn Val Lys Glu Ala		
305	310	315
Leu Ile Lys Glu Leu Ser Met Lys Ile Tyr Phe Ser		
325	330	

<210> 15

<211> 951

<212> DNA

<213> Homo sapiens

<400> 15

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ctgtgggaat gtctctctca tcttcctcat ctacctggac gctggacttc acaccccat 180
gtacttcttc ctacagccagc tctccctcat ggacctcatg ttggctctgta acattgtgcc 240
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acaaattggc ttttttgtct ctcttgtggg atctgagggg ctcttgtctg gactcatggc 360
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ggtctgtctc cagattactg ggagctcctg ggcctttggg ataatagatg gagtgattca 480
gatggtgga gccatgggct taccttactg tggtctgagg agcgtggatc actttttctg 540
tgaggtaaca gctttattga agctggcctg tgcagacact tccctttttg acaccctcct 600
ctttgcttgc tgtgtcttca tgcttctcct tcccttctcc atcatcatgg cctcctatgc 660
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cacctgctcc tccaccta aa cagctgtcac cctcttctat ggggcagcca tgttcatgta 780
cctgaggcct aggcgctacc gggcccctag ccatgacaag gtggcctcta tcttctacac 840
agtccttact cccatgctga accccctcat ttacagcttg aggaatgggg aggtgatggg 900
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<210> 16

<211> 315

<212> PRT

<213> Homo sapiens

<400> 16

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Met Gly Arg Trp Val Asn Gln Ser Tyr Thr Asp Gly Phe Phe Leu Leu
  1             5             10             15

Gly Ile Phe Ser His Ser Gln Thr Asp Leu Val Leu Phe Ser Ala Val
          20             25             30

Met Val Val Phe Thr Val Ala Leu Cys Gly Asn Val Leu Leu Ile Phe
          35             40             45

Leu Ile Tyr Leu Asp Ala Gly Leu His Thr Pro Met Tyr Phe Phe Leu
          50             55             60

Ser Gln Leu Ser Leu Met Asp Leu Met Leu Val Cys Asn Ile Val Pro
          65             70             75             80

Lys Met Ala Ala Asn Phe Leu Ser Gly Arg Lys Ser Ile Ser Phe Val
          85             90             95

Gly Cys Gly Ile Gln Ile Gly Phe Phe Val Ser Leu Val Gly Ser Glu
          100            105            110

Gly Leu Leu Leu Gly Leu Met Ala Tyr Asp Arg Tyr Val Ala Val Ser
          115            120            125

```



His Pro Leu His Tyr Pro Ile Leu Met Asn Gln Arg Val Cys Leu Gln  
 130 135 140  
 Ile Thr Gly Ser Ser Trp Ala Phe Gly Ile Ile Asp Gly Val Ile Gln  
 145 150 155 160  
 Met Val Ala Ala Met Gly Leu Pro Tyr Cys Gly Leu Arg Ser Val Asp  
 165 170 175  
 His Phe Phe Cys Glu Val Gln Ala Leu Leu Lys Leu Ala Cys Ala Asp  
 180 185 190  
 Thr Ser Leu Phe Asp Thr Leu Leu Phe Ala Cys Cys Val Phe Met Leu  
 195 200 205  
 Leu Leu Pro Phe Ser Ile Ile Met Ala Ser Tyr Ala Cys Ile Leu Gly  
 210 215 220  
 Ala Val Leu Arg Ile Arg Ser Ala Gln Ala Trp Lys Lys Ala Leu Ala  
 225 230 235 240  
 Thr Cys Ser Ser His Leu Thr Ala Val Thr Leu Phe Tyr Gly Ala Ala  
 245 250 255  
 Met Phe Met Tyr Leu Arg Pro Arg Arg Tyr Arg Ala Pro Ser His Asp  
 260 265 270  
 Lys Val Ala Ser Ile Phe Tyr Thr Val Leu Thr Pro Met Leu Asn Pro  
 275 280 285  
 Leu Ile Tyr Ser Leu Arg Asn Gly Glu Val Met Gly Ala Leu Arg Lys  
 290 295 300  
 Gly Leu Asp Arg Cys Arg Ile Gly Ser Gln His  
 305 310 315

<210> 17

<211> 1015

<212> DNA

<213> Homo sapiens

<400> 17

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 cccatttctg gggttgcttc cccctccttt ccatgtatgt agtggcaatg tttggaaact 120  
 gcacgtggt cttcatcgta aggacggaac gcagcctgca cgctccgatg tacctctttc 180  
 tctgcatgct tgcagccatt gacctggcct tatccacatc caccatgcct aagatccttg 240  
 cccttttctg gtttgattcc cgagagatta gctttgaggc ctgtcttacc cagatgttct 300

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ttattcatgc cctctcagcc attgaatcca ccatactgct ggccatggcc tttgaccgtt 360
atgtggccat ctgccacca ctgcgccatg ctgcagtgt caacaataca gtaacagccc 420
agattggcat cgtggctgtg gtccgcggat ccctcttttt tttccactg cctctgctga 480
tcaagcggct ggccttctgc cactccaatg tcctctcgca ctctattgt gtccaccagg 540
atgtaatgaa gttggcctat gcagacactt tgcccaatgt ggtatatggt cttactgcca 600
ttctgctggt catgggcgtg gacgtaatgt tcatctcctt gtcctatttt ctgataatac 660
gaacggttct gcaactgcct tccaagtcag agcggggccaa ggcctttgga acctgtgtgt 720
cacacattgg tgtgtactc gccttctatg tgccacttat tggcctctca gttgtacacc 780
gctttggaaa cagccttcat ccattgtgc gtgttgtcat gggtgacatc tacctgctgc 840
tgccctcctg catcaatccc atcatctatg gtgccaaaac caaacagatc agaacacggg 900
tgctggctat gttcaagatc agctgtgaca aggacttgca ggctgtggga ggcaagtgac 960
ccttaacact acacttctcc ttatctttat tggcttgata aacataatta tttct      1015

```

<210> 18

<211> 318

<212> PRT

<213> Homo sapiens

<400> 18

```

Ser Cys Asn Phe Thr His Ala Thr Phe Val Leu Ile Gly Ile Pro Gly
  1                      5                      10                      15

```

```

Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser Met Tyr
      20                      25                      30

```

```

Val Val Ala Met Phe Gly Asn Cys Ile Val Val Phe Ile Val Arg Thr
      35                      40                      45

```

```

Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met Leu Ala
      50                      55                      60

```

```

Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile Leu Ala
      65                      70                      75                      80

```

```

Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Phe Glu Ala Cys Leu Thr
      85                      90                      95

```

```

Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr Ile Leu
      100                      105                      110

```

```

Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg
      115                      120                      125

```

```

His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly Ile Val
      130                      135                      140

```

```

Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu Leu Ile

```

145		150		155		160
Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser Tyr Cys						
	165		170		175	
Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu Pro Asn						
	180		185		190	
Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val Asp Val						
	195		200		205	
Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val Leu Gln						
	210		215		220	
Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys Val Ser						
225		230		235		240
His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly Leu Ser						
	245		250		255	
Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg Val Val						
	260		265		270	
Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro Ile Ile						
	275		280		285	
Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala Met Phe						
	290		295		300	
Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys						
305		310		315		

<210> 19  
 <211> 937  
 <212> DNA  
 <213> Homo sapiens

<400> 19  
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 ggggaacctg ggcatgatca ctctaatttg tctgaactct cagctgcaca ccccatgta 180  
 ctactttctc agcaatctgt cactcatgga cctctgctac tcctccgtca ttaccctaa 240  
 gatgctggtg aactttgtgt cagagaaaaa catcatctcc tacgcagggt gcatgtcaca 300  
 gctctacttc ttccttggtt ttgtcattgc tgagtgctac atgctgagag tgatggccta 360  
 cgaccgctat gttgccatct gccacccttt gctttacaac atcattatgt ctcatcacac 420  
 ctgcctgctg ctggtggctg tgggtctacg catcggactc attgggtcca caatagaaac 480  
 tggcctcatg ttaaaactgc cctattgtga gcacctcatc agtcactact tctgtgacat 540

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cctccctctc atgaagctgt cctgctctag cacctatgat gttgagatga cagtcttctt 600
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tctctccagc atcctcgga tcagcaccac agaggggaga tccaaagcct tcagcacctg 720
cagctcccac cttgcagccg tgggaatgtt ctatggatca actgcattca tgtacttaaa 780
accctccaca atcagttcct tgaccagga gaatgtggcc tctgtgttcc acaccacggt 840
aatcccatg ttgaatcccc taatctacag cctgaggaac aaggaagtaa aggctgccgt 900
gcagaaaacg ctgaggggta aactgttttg atgcaaa 937

```

<210> 20

<211> 309

<212> PRT

<213> Homo sapiens

<400> 20

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Met Ala Ala Gly Asn His Ser Thr Val Thr Glu Phe Ile Leu Lys Gly
  1             5             10            15

```

```

Leu Thr Lys Arg Ala Asp Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu
          20             25            30

```

```

Gly Ile Tyr Leu Val Thr Ile Val Gly Asn Leu Gly Met Ile Thr Leu
      35             40            45

```

```

Ile Cys Leu Asn Ser Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
      50             55            60

```

```

Asn Leu Ser Leu Met Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Lys
      65             70            75            80

```

```

Met Leu Val Asn Phe Val Ser Glu Lys Asn Ile Ile Ser Tyr Ala Gly
          85             90            95

```

```

Cys Met Ser Gln Leu Tyr Phe Phe Leu Val Phe Val Ile Ala Glu Cys
      100            105            110

```

```

Tyr Met Leu Arg Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
      115            120            125

```

```

Pro Leu Leu Tyr Asn Ile Ile Met Ser His His Thr Cys Leu Leu Leu
      130            135            140

```

```

Val Ala Val Val Tyr Ala Ile Gly Leu Ile Gly Ser Thr Ile Glu Thr
      145            150            155            160

```

```

Gly Leu Met Leu Lys Leu Pro Tyr Cys Glu His Leu Ile Ser His Tyr
          165            170            175

```

Phe Cys Asp Ile Leu Pro Leu Met Lys Leu Ser Cys Ser Ser Thr Tyr  
 180 185 190  
 Asp Val Glu Met Thr Val Phe Phe Leu Ala Gly Phe Asn Ile Ile Val  
 195 200 205  
 Thr Ser Leu Thr Val Leu Val Ser Tyr Thr Phe Ile Leu Ser Ser Ile  
 210 215 220  
 Leu Gly Ile Ser Thr Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys  
 225 230 235 240  
 Ser Ser His Leu Ala Ala Val Gly Met Phe Tyr Gly Ser Thr Ala Phe  
 245 250 255  
 Met Tyr Leu Lys Pro Ser Thr Ile Ser Ser Leu Thr Gln Glu Asn Val  
 260 265 270  
 Ala Ser Val Phe His Thr Thr Val Ile Pro Met Leu Asn Pro Leu Ile  
 275 280 285  
 Tyr Ser Leu Arg Asn Lys Glu Val Lys Ala Ala Val Gln Lys Thr Leu  
 290 295 300  
 Arg Gly Lys Leu Phe  
 305

<210> 21  
 <211> 1003  
 <212> DNA  
 <213> Homo sapiens

<400> 21  
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 gcaatctgct cattatcacc atcatcacct tggaccaacg tctgcattct cccatgtact 180  
 acttcttgaa gcacctctct tttttggatc tctgcttcat ctctgttact gttcctcagt 240  
 ctattgcaaa ctactcatg aacaatgggt tcatttctct tggtcagtgt atgtttcagg 300  
 ttttcttctt catagctctg gcctcatcag aagtagctat tctcacagtg atgtcttatg 360  
 accggtatgt tgccatctgt cggccactgc agtatgagac aattatggat ccccatgcct 420  
 gcaagtgcgc agtगतगगct gtatggatgg ctggaggact atctggggtc ctacacacag 480  
 gtgttaattt ctcaattcct ctttgtggga agagaattat tcaccagttc ttctgtgaca 540  
 ttcccaaat gctaaaacta gcttggttct atgaattcat taatgagatt gcagtggctg 600  
 catttacaac atccacagcc tttgtctgtt taatagccat agtcttctcc tatactcaga 660  
 tcttctcaac tgtgatgaga attccatcag ctgatagtcg gactaagggt ttctccacct 720  
 gtctaccaca tttgtttgta gtcattgttct tcctctcagc tgcaggcttt gaatttctaa 780  
 gacctccttc agattccctg tcagcaatgg acctcgtatt ctccatattc tacactgtga 840

tacctccaac actcaatcca ctcatctaca gcttgaggaa tgaggccatg aaagcagctc 900  
 tgaggaaagt gttgtcaaaa gaagaatttt ctcggagaat ggtatatgtt aaagctatat 960  
 tcaatctcta aagagacaac aaactaagag gcattgctac tat 1003

<210> 22

<211> 320

<212> PRT

<213> Homo sapiens

<400> 22

Met Asn Val Ser Phe Lys Thr Gly Phe Leu Leu Met Gly Phe Ser Asp  
 1 5 10 15

Glu Arg Asn Leu Gln Ile Leu His Ala Val Leu Phe Leu Ile Thr Tyr  
 20 25 30

Leu Leu Ala Ile Met Gly Asn Leu Leu Ile Ile Thr Ile Ile Thr Leu  
 35 40 45

Asp Gln Arg Leu His Ser Pro Met Tyr Tyr Phe Leu Lys His Leu Ser  
 50 55 60

Phe Leu Asp Leu Cys Phe Ile Ser Val Thr Val Pro Gln Ser Ile Ala  
 65 70 75 80

Asn Ser Leu Met Asn Asn Gly Phe Ile Ser Leu Gly Gln Cys Met Leu  
 85 90 95

Gln Val Phe Phe Phe Ile Ala Leu Ala Ser Ser Glu Val Ala Ile Leu  
 100 105 110

Thr Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Arg Pro Leu Gln  
 115 120 125

Tyr Glu Thr Ile Met Asp Pro His Ala Cys Lys Cys Ala Val Ile Ala  
 130 135 140

Val Trp Met Ala Gly Gly Leu Ser Gly Leu Leu His Thr Gly Val Asn  
 145 150 155 160

Phe Ser Ile Pro Leu Cys Gly Lys Arg Ile Ile His Gln Phe Phe Cys  
 165 170 175

Asp Ile Pro Gln Met Leu Lys Leu Ala Cys Ser Tyr Glu Phe Ile Asn  
 180 185 190

Glu Ile Ala Val Ala Ala Phe Thr Thr Ser Thr Ala Phe Val Cys Leu

195	200	205
Ile Ala Ile Val Phe Ser Tyr Thr Gln Ile Phe Ser Thr Val Met Arg		
210	215	220
Ile Pro Ser Ala Asp Ser Arg Thr Lys Val Phe Ser Thr Cys Leu Pro		
225	230	235 240
His Leu Phe Val Val Met Phe Phe Leu Ser Ala Ala Gly Phe Glu Phe		
	245	250 255
Leu Arg Pro Pro Ser Asp Ser Leu Ser Ala Met Asp Leu Val Phe Ser		
	260	265 270
Ile Phe Tyr Thr Val Ile Pro Pro Thr Leu Asn Pro Leu Ile Tyr Ser		
	275	280 285
Leu Arg Asn Glu Ala Met Lys Ala Ala Leu Arg Lys Val Leu Ser Lys		
	290	295 300
Glu Glu Phe Ser Arg Arg Met Val Tyr Val Lys Ala Ile Phe Asn Leu		
305	310	315 320

<210> 23  
 <211> 1003  
 <212> DNA  
 <213> Homo sapiens

<400> 23

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gcaatctgct	cattatcacc	atcatcacct	tggaccaacg	tctgcattct	cccatgtact	180
acttcttgaa	gcacctctct	tttttggatc	tctgtttcat	ctctgttact	gttcctcagt	240
ctattgcaaa	ctcactcatg	aacaatgggt	tcattttctc	tggtcagtgt	atgcttcagg	300
ttttcttctt	catagctctg	gcctcatcag	aagtagctat	tctcacagtg	atgtcttatg	360
accggtatgt	tgccatctgt	cggccactgc	agtatgagac	aattatggat	ccccatgcct	420
gcaagtgcgc	agtgatagct	gtatggatgg	ctggaggact	atctgggctc	ctacacacag	480
gtgttaattt	ctcaattcct	ctttgtggga	agagaattat	tcaccagttc	ttctgtgaca	540
ttccccaat	gctaaaacta	gcttgttctt	atgaattcat	taatgagatt	gcagtggctg	600
catttacaac	atccacagcc	tttgtctgtt	taatagccat	agtcttctcc	tatactcaga	660
tcttctcaac	tgtgatgaga	attccatcag	ctgatagtcg	gactaagggt	ttctccacct	720
gtctaccaca	tttgtttgta	gtcatgttct	tcctctcagc	tgcaggcttt	gaatttctaa	780
gacctccttc	agattccctg	tcagcaatgg	acctcgattt	ctccatattc	tacactgtga	840
tacctccaac	actcaatcca	ctcatctaca	gcttgaggaa	tgaggccatg	aaagcagctc	900

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<210> 24  
<211> 320  
<212> PRT  
<213> Homo sapiens

<400> 24  
Met Asn Val Ser Phe Lys Thr Gly Phe Leu Leu Met Gly Phe Ser Asp  
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Glu Arg Asn Leu Gln Ile Leu His Ala Val Leu Phe Leu Ile Thr Tyr  
20 25 30  
Leu Leu Ala Ile Met Gly Asn Leu Leu Ile Ile Thr Ile Ile Thr Leu  
35 40 45  
Asp Gln Arg Leu His Ser Pro Met Tyr Tyr Phe Leu Lys His Leu Ser  
50 55 60  
Phe Leu Asp Leu Cys Phe Ile Ser Val Thr Val Pro Gln Ser Ile Ala  
65 70 75 80  
Asn Ser Leu Met Asn Asn Gly Phe Ile Ser Leu Gly Gln Cys Met Leu  
85 90 95  
Gln Val Phe Phe Phe Ile Ala Leu Ala Ser Ser Glu Val Ala Ile Leu  
100 105 110  
Thr Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Arg Pro Leu Gln  
115 120 125  
Tyr Glu Thr Ile Met Asp Pro His Ala Cys Lys Cys Ala Val Ile Ala  
130 135 140  
Val Trp Met Ala Gly Gly Leu Ser Gly Leu Leu His Thr Gly Val Asn  
145 150 155 160  
Phe Ser Ile Pro Leu Cys Gly Lys Arg Ile Ile His Gln Phe Phe Cys  
165 170 175  
Asp Ile Pro Gln Met Leu Lys Leu Ala Cys Ser Tyr Glu Phe Ile Asn  
180 185 190  
Glu Ile Ala Val Ala Ala Phe Thr Thr Ser Thr Ala Phe Val Cys Leu  
195 200 205



Ile	Ala	Ile	Val	Phe	Ser	Tyr	Thr	Gln	Ile	Phe	Ser	Thr	Val	Met	Arg
210						215					220				
Ile	Pro	Ser	Ala	Asp	Ser	Arg	Thr	Lys	Val	Phe	Ser	Thr	Cys	Leu	Pro
225					230					235				240	
His	Leu	Phe	Val	Val	Met	Phe	Phe	Leu	Ser	Ala	Ala	Gly	Phe	Glu	Phe
			245					250					255		
Leu	Arg	Pro	Pro	Ser	Asp	Ser	Leu	Ser	Ala	Met	Asp	Leu	Val	Phe	Ser
		260					265					270			
Ile	Phe	Tyr	Thr	Val	Ile	Pro	Pro	Thr	Leu	Asn	Pro	Leu	Ile	Tyr	Ser
	275					280						285			
Leu	Arg	Asn	Glu	Ala	Met	Lys	Ala	Ala	Leu	Arg	Lys	Val	Leu	Ser	Lys
290						295					300				
Glu	Glu	Phe	Ser	Arg	Arg	Met	Val	Tyr	Val	Lys	Ala	Ile	Phe	Asn	Leu
305					310					315					320

<210> 25  
 <211> 999  
 <212> DNA  
 <213> Homo sapiens

<400> 25  
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<210> 26

<211> 315

<212> PRT

<213> Homo sapiens

<400> 26

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20 25 30

Val Leu Tyr Val Leu Thr Met Ala Gly Asn Leu Gly Ile Ile Thr Leu  
35 40 45

Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Arg  
50 55 60

His Leu Ala Ile Ile Asn Leu Gly Asn Ser Thr Val Ile Ala Pro Lys  
65 70 75 80

Met Leu Met Asn Phe Leu Val Lys Lys Lys Thr Thr Ser Phe Tyr Glu  
85 90 95

Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe Ile Val Ser Glu Val  
100 105 110

Met Met Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
115 120 125

Pro Leu Leu Tyr Met Val Val Val Ser Arg Arg Leu Cys Leu Leu Leu  
130 135 140

Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr Ala Ile Val Val Ser  
145 150 155 160

Pro Cys Ile Phe Ser Val Ser Tyr Cys Ser Ser Asn Ile Ile Asn His  
165 170 175

Phe Tyr Cys Asp Ile Ala Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr  
180 185 190

Tyr Ile Pro Glu Thr Ile Val Phe Ile Ser Ala Ala Thr Asn Leu Phe  
195 200 205

Phe Ser Met Ile Thr Val Leu Val Ser Tyr Phe Asn Ile Val Leu Ser  
 210 215 220

Ile Leu Arg Ile Arg Ser Pro Glu Gly Arg Lys Lys Ala Phe Ser Thr  
 225 230 235 240

Cys Ala Ser His Met Ile Ala Val Thr Val Phe Tyr Gly Thr Met Leu  
 245 250 255

Phe Met Tyr Leu Gln Pro Gln Thr Asn His Ser Leu Asp Thr Asp Lys  
 260 265 270

Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro Leu  
 275 280 285

Ile Tyr Ser Leu Arg Asn Asn Asp Val Asn Val Ala Leu Lys Lys Phe  
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Met Glu Asn Pro Cys Tyr Ser Phe Lys Ser Met  
 305 310 315

<210> 27

<211> 999

<212> DNA

<213> Homo sapiens

<400> 27

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<210> 28

<211> 321

<212> PRT

<213> Homo sapiens

<400> 28

Met Ser Ile Asn Cys Ser Leu Trp Gln Glu Asn Ser Leu Ser Val Lys  
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Arg Phe Ala Phe Ser Lys Phe Ser Glu Val Pro Gly Glu Cys Phe Leu  
20 25 30

Leu Phe Thr Leu Ile Leu Leu Met Phe Leu Val Ser Leu Thr Gly Asn  
35 40 45

Glu Leu Ile Ala Ile Ala Ile Cys Thr Ser Pro Ala Leu His Thr Pro  
50 55 60

Met Tyr Phe Phe Leu Ala Asn Leu Ser Leu Leu Glu Ile Gly Tyr Thr  
65 70 75 80

Cys Ser Val Ile Pro Lys Met Leu Gln Ser Leu Val Ser Glu Ala Arg  
85 90 95

Glu Ile Ser Arg Glu Gly Cys Ala Thr Gln Met Phe Phe Phe Thr Phe  
100 105 110

Phe Gly Ile Thr Glu Cys Cys Leu Leu Ala Ala Met Ala Tyr Asp Arg  
115 120 125

Cys Met Ala Ile Cys Ser Pro Leu His Tyr Ala Thr Arg Met Ser His  
130 135 140

Gly Val Cys Ala His Leu Ala Ile Val Ser Trp Gly Met Gly Cys Ile  
145 150 155 160

Val Gly Leu Gly Gln Thr Asn Phe Ile Phe Ser Leu Asn Phe Cys Gly  
165 170 175

Pro Cys Glu Ile Asp His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala  
180 185 190

Leu Ala Cys Gly Asp Thr Ser Gln Asn Glu Ala Ala Ile Phe Val Ala  
195 200 205

Ala Ile Leu Cys Ile Ser Ser Pro Phe Leu Leu Ile Ile Tyr Ser Tyr  
210 215 220

Val Arg Ile Leu Val Ala Val Leu Val Met Pro Ser Pro Glu Gly Arg

225		230		235		240									
His	Lys	Ala	Leu	Ser	Thr	Cys	Ser	Ser	His	Leu	Leu	Val	Val	Thr	Leu
			245						250					255	
Phe	Phe	Gly	Ser	Gly	Ser	Ile	Thr	Tyr	Leu	Arg	Pro	Lys	Ser	Ser	His
		260						265					270		
Leu	Pro	Gly	Met	Asp	Lys	Leu	Leu	Ala	Leu	Phe	Tyr	Thr	Ala	Val	Thr
		275						280					285		
Ser	Met	Leu	Asn	Pro	Ile	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Val	Lys
	290						295				300				
Thr	Ala	Leu	Arg	Lys	Thr	Leu	Ser	Leu	Lys	Thr	Ser	Arg	Ala	Ile	Asn
305					310					315					320

Arg

<210> 29  
 <211> 999  
 <212> DNA  
 <213> Homo sapiens

<400> 29

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<210> 30  
 <211> 321

<212> PRT

<213> Homo sapiens

<400> 30

Met Ser Ile Asn Cys Ser Leu Trp Gln Glu Asn Ser Leu Ser Val Lys  
1 5 10 15

Arg Phe Ala Phe Ser Lys Phe Ser Glu Val Pro Gly Glu Cys Phe Leu  
20 25 30

Leu Phe Thr Leu Ile Leu Leu Met Phe Leu Val Ser Leu Thr Gly Asn  
35 40 45

Glu Leu Ile Ala Ile Ala Ile Cys Thr Ser Pro Ala Leu His Thr Pro  
50 55 60

Met Tyr Phe Phe Leu Ala Asn Leu Ser Leu Leu Glu Ile Gly Tyr Thr  
65 70 75 80

Cys Ser Val Ile Pro Lys Met Leu Gln Ser Leu Val Ser Glu Ala Arg  
85 90 95

Glu Ile Ser Arg Glu Gly Cys Ala Thr Gln Met Phe Phe Phe Thr Phe  
100 105 110

Phe Gly Ile Thr Glu Cys Cys Leu Leu Ala Ala Met Ala Tyr Asp Arg  
115 120 125

Cys Met Ala Ile Cys Ser Pro Leu His Tyr Ala Thr Arg Met Ser His  
130 135 140

Gly Val Cys Ala His Leu Ala Ile Val Ser Trp Gly Met Gly Cys Ile  
145 150 155 160

Val Gly Leu Gly Gln Thr Asn Phe Ile Phe Ser Leu Asn Phe Cys Gly  
165 170 175

Pro Cys Glu Ile Asp His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala  
180 185 190

Leu Ala Cys Gly Asp Thr Ser Gln Asn Glu Ala Ala Ile Phe Val Ala  
195 200 205

Ala Ile Leu Cys Ile Ser Ser Pro Phe Leu Leu Ile Ile Tyr Ser Tyr  
210 215 220

Val Arg Ile Leu Val Ala Val Leu Val Met Pro Ser Pro Glu Gly Arg  
225 230 235 240

His Lys Ala Leu Ser Thr Cys Ser Ser His Leu Leu Val Val Thr Leu  
245 250 255

Phe Phe Gly Ser Gly Ser Ile Thr Tyr Leu Arg Pro Lys Ser Ser His  
260 265 270

Leu Pro Gly Met Asp Lys Leu Leu Ala Leu Phe Tyr Thr Ala Val Thr  
275 280 285

Ser Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys  
290 295 300

Thr Ala Leu Arg Lys Thr Leu Ser Leu Lys Thr Ser Arg Ala Ile Asn  
305 310 315 320

Arg

<210> 31

<211> 1002

<212> DNA

<213> Homo sapiens

<400> 31

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ttcttctgtg agttatcctc cctgatatca ctctcttacc ctgactctta tctcagccag 600
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<210> 32

<211> 328

<212> PRT

<213> Homo sapiens

<400> 32

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Leu	Gly	Phe	Ser	Asp	Tyr	Leu	Glu	Leu	Gln	Ile	Pro	Leu	Phe	Phe	Val	
			20					25					30			
Phe	Leu	Ala	Val	Tyr	Gly	Phe	Ser	Val	Val	Gly	Asn	Leu	Gly	Met	Ile	
		35					40					45				
Val	Ile	Ile	Lys	Ile	Asn	Pro	Lys	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	
	50					55					60					
Leu	Asn	His	Leu	Ser	Phe	Val	Asp	Phe	Cys	Tyr	Ser	Ser	Ile	Ile	Ala	
65					70					75					80	
Pro	Met	Met	Leu	Val	Asn	Leu	Val	Val	Glu	Asp	Arg	Thr	Ile	Ser	Phe	
				85					90					95		
Ser	Gly	Cys	Leu	Val	Gln	Phe	Phe	Phe	Phe	Cys	Thr	Phe	Val	Val	Thr	
			100					105					110			
Glu	Leu	Ile	Leu	Phe	Ala	Val	Met	Ala	Tyr	Asp	His	Phe	Val	Ala	Ile	
	115						120					125				
Cys	Asn	Pro	Leu	Leu	Tyr	Thr	Val	Ala	Ile	Ser	Gln	Lys	Leu	Cys	Ala	
	130					135					140					
Met	Leu	Val	Val	Val	Leu	Tyr	Ala	Trp	Gly	Val	Ala	Cys	Ser	Leu	Thr	
145					150					155					160	
Leu	Ala	Cys	Ser	Ala	Leu	Lys	Leu	Ser	Phe	His	Gly	Phe	Asn	Thr	Ile	
				165					170					175		
Asn	His	Phe	Phe	Cys	Glu	Leu	Ser	Ser	Leu	Ile	Ser	Leu	Ser	Tyr	Pro	
			180					185					190			
Asp	Ser	Tyr	Leu	Ser	Gln	Leu	Leu	Leu	Phe	Thr	Val	Ala	Thr	Phe	Asn	
		195				200						205				
Glu	Ile	Ser	Thr	Leu	Leu	Ile	Ile	Leu	Thr	Ser	Tyr	Ala	Phe	Ile	Ile	
	210					215					220					
Val	Thr	Thr	Leu	Lys	Met	Pro	Ser	Ala	Ser	Gly	His	Arg	Lys	Val	Phe	
225					230					235					240	



Ser Thr Cys Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr  
                     245                    250                    255  
  
 Ile Leu Phe Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr  
                     260                    265                    270  
  
 Val Lys Val Ala Ser Val Phe Tyr Thr Val Val Ile Pro Leu Leu Asn  
                     275                    280                    285  
  
 Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Ala Ile Arg  
                     290                    295                    300  
  
 Lys Ile Ile Asn Thr Lys Tyr Phe His Ile Lys His Arg His Trp Tyr  
 305                    310                    315                    320  
  
 Pro Phe Asn Phe Val Ile Glu Gln  
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<210> 33  
 <211> 943  
 <212> DNA  
 <213> Homo sapiens

<400> 33  
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 aatggtgatg aacttcatat taagacagaa tgccatttcc tatatgcaat gtatgactca 300  
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 aagaaaatct ttggcaagggt ggaagatttg attggatata tat 943

<210> 34  
 <211> 309  
 <212> PRT  
 <213> Homo sapiens

<400> 34

Met Asp Ser Val Asn Val Ser Leu Val Thr Glu Phe Leu Leu Val Gly  
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Leu Thr His Gln Pro Asp Arg Gln Ile Pro Leu Phe Leu Leu Phe Leu  
20 25 30

Ala Met Tyr Leu Val Thr Ala Leu Gly Asn Leu Gly Leu Ile Ile Leu  
35 40 45

Val Leu Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe  
50 55 60

Asn Leu Ser Phe Ile Asp Phe Cys Tyr Ser Ser Val Phe Thr Pro Lys  
65 70 75 80

Met Leu Met Asn Phe Ile Leu Arg Gln Asn Ala Ile Ser Tyr Met Gln  
85 90 95

Cys Met Thr Gln Leu Tyr Phe Phe Cys Phe Phe Val Val Ser Glu Cys  
100 105 110

Phe Val Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn  
115 120 125

Pro Leu Leu Tyr Asn Val Met Ile Ser Pro Gln Val Cys Leu Asn Leu  
130 135 140

Met Ile Gly Ser Tyr Leu Met Ala Phe Ser Glu Ala Val Ala Leu Thr  
145 150 155 160

Val Cys Met Leu Thr Leu Thr Phe Cys Asp Gly Asn Ile Asn His Tyr  
165 170 175

Phe Cys Asp Ile Leu Ala Leu Phe Gln Leu Ser Cys Ser Ser Thr Tyr  
180 185 190

Val Asn Lys Leu Val Ala Tyr Val Ile Val Val Ile Asn Ile Leu Phe  
195 200 205

Ser Thr Pro Thr Ile Phe Ile Ser Tyr Gly Phe Ile Leu Ser Ser Ile  
210 215 220

Phe Arg Ile Ser Ser Ser Lys Gly Arg Ser Lys Ala Phe Ser Thr Cys  
225 230 235 240

Ser Ser His Ile Ile Ala Val Ser Leu Phe Phe Gly Ser Gly Ala Phe  
245 250 255

Val Tyr Phe Lys Pro Ser Ser Pro Gly Ser Met Glu Trp Ala Lys Ile  
 260 265 270

Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Met Asn Pro Leu Ile  
 275 280 285

Tyr Ser Leu Lys Asn Lys Asp Val Lys Ile Ala Leu Arg Lys Ser Leu  
 290 295 300

Ala Arg Trp Lys Ile  
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<210> 35  
 <211> 974  
 <212> DNA  
 <213> Homo sapiens

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 cataatcaca gtggtgggaa acttgggctt gatcatcctg attggcctca atcctcacct 180  
 gcacaccccc atgtactatt tcctcttcaa cctctccttc attgatctct gttactcttc 240  
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 ggggtgcatg actcaactgt ttctctttct cttttttgtc atctctgaat gctacatggt 360  
 gacctcaatg gcctatgatc gctatgtggc catctgtaat ccactattgt ataagggtcac 420  
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<210> 36  
 <211> 317  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
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Leu Phe Leu Ile Ile Tyr Ile Ile Thr Val Val Gly Asn Leu Gly Leu  
 35 40 45

Ile Ile Leu Ile Gly Leu Asn Pro His Leu His Thr Pro Met Tyr Tyr  
 50 55 60

Phe Leu Phe Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe  
 65 70 75 80

Ser Pro Lys Met Leu Ile Asn Phe Val Ser Glu Lys Asn Ser Ile Ser  
 85 90 95

Tyr Ala Gly Cys Met Thr Gln Leu Phe Leu Phe Leu Phe Phe Val Ile  
 100 105 110

Ser Glu Cys Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala  
 115 120 125

Ile Cys Asn Pro Leu Leu Tyr Lys Val Thr Met Ser Pro Gln Ile Cys  
 130 135 140

Ser Val Ile Ser Phe Ala Ala Tyr Gly Met Gly Phe Ala Gly Ser Ser  
 145 150 155 160

Ala His Thr Gly Cys Met Leu Arg Leu Thr Phe Cys Asn Val Asn Val  
 165 170 175

Ile Asn His Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys  
 180 185 190

Thr Ser Thr Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Ile  
 195 200 205

Asn Ile Thr Val Pro Ser Phe Thr Ile Leu Ile Ser Tyr Val Phe Ile  
 210 215 220

Leu Ala Asn Ile Leu Asn Ile Lys Ser Thr Gln Gly Arg Ala Lys Ala  
 225 230 235 240

Phe Ser Thr Cys Ser Ser His Ile Met Ala Ile Ser Leu Phe Phe Gly  
 245 250 255

Ser Ala Ala Phe Met Tyr Leu Lys Tyr Ser Ser Gly Ser Met Glu Gln  
 260 265 270

Gly Lys Ile Ser Ser Val Phe Tyr Thr Asn Val Gly Pro Met Leu Asn  
 275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg  
 290 295 300

Lys Ser Leu Ile Lys Phe Arg Glu Lys Thr Asp Phe Asn  
 305 310 315

<210> 37  
 <211> 1047  
 <212> DNA  
 <213> Homo sapiens

<400> 37  
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 gatcctgctt ggaaatggag tccttatctc agttatcatc tttgattctc acctgcacac 180  
 ccccatgtat ttcttctctt gtaatctttc ctctctcgac gtttgctaca caagtctctc 240  
 tgtcccacta attcttgcca gctttctggc agtaaagaaa aaggtttcct tctctgggtg 300  
 tatgggtgcaa atgtttatatt cttttgccat gggggccacg gagtgcatga tcttaggcac 360  
 gatggcactg gaccgctatg tggccatctg ctaccactg agataccctg tcatcatgag 420  
 caaggggtgcc tatgtggcca tggcagctgg gtccctgggtc actgggcttg tggactcagt 480  
 agtgcagaca gcttttgcaa tgcagttacc attctgtgct aataatgtca ttaaacattt 540  
 tgtctgtgaa attctggcta tcttgaaact ggcctgtgct gatatttcaa tcaatgtgat 600  
 tagtatgaca gggtcgaatc tgattgttct gggtattcca ttgttagtaa tttccatctc 660  
 ttacatattt attgttgcca ctattctgag gattccttcc actgaaggaa aacataaggc 720  
 cttctccacc tgctcagccc acctgacagt ggtgattata ttctatggaa ccatcttctt 780  
 catgtacgca aagcctgagt ctaaagcctc tgttgattca ggtaatgaag acatcattga 840  
 ggccctcatc tcccttttct atggagtgat gactcccatg cttaatctc tcatctatag 900  
 tctgcgaaac aaggatgtaa aggctgctgt caaaaacata ctgtgtagga aaaacttttc 960  
 tgatggaaaa tgaatactga ttatactac atgacttaat attcaatgct gctgcagaca 1020  
 taaaattcag aaagataaaa ttaccat 1047

<210> 38  
 <211> 320  
 <212> PRT  
 <213> Homo sapiens

<400> 38  
 Met Glu Arg Thr Asn Asp Ser Thr Ser Thr Glu Phe Phe Leu Val Gly  
 1 5 10 15  
 Leu Ser Ala His Pro Lys Leu Gln Thr Val Phe Phe Val Leu Ile Leu  
 20 25 30

Trp Met Tyr Leu Met Ile Leu Leu Gly Asn Gly Val Leu Ile Ser Val  
 35 40 45  
 Ile Ile Phe Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Cys  
 50 55 60  
 Asn Leu Ser Phe Leu Asp Val Cys Tyr Thr Ser Ser Ser Val Pro Leu  
 65 70 75 80  
 Ile Leu Ala Ser Phe Leu Ala Val Lys Lys Lys Val Ser Phe Ser Gly  
 85 90 95  
 Cys Met Val Gln Met Phe Ile Ser Phe Ala Met Gly Ala Thr Glu Cys  
 100 105 110  
 Met Ile Leu Gly Thr Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Tyr  
 115 120 125  
 Pro Leu Arg Tyr Pro Val Ile Met Ser Lys Gly Ala Tyr Val Ala Met  
 130 135 140  
 Ala Ala Gly Ser Trp Val Thr Gly Leu Val Asp Ser Val Val Gln Thr  
 145 150 155 160  
 Ala Phe Ala Met Gln Leu Pro Phe Cys Ala Asn Asn Val Ile Lys His  
 165 170 175  
 Phe Val Cys Glu Ile Leu Ala Ile Leu Lys Leu Ala Cys Ala Asp Ile  
 180 185 190  
 Ser Ile Asn Val Ile Ser Met Thr Gly Ser Asn Leu Ile Val Leu Val  
 195 200 205  
 Ile Pro Leu Leu Val Ile Ser Ile Ser Tyr Ile Phe Ile Val Ala Thr  
 210 215 220  
 Ile Leu Arg Ile Pro Ser Thr Glu Gly Lys His Lys Ala Phe Ser Thr  
 225 230 235 240  
 Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Phe  
 245 250 255  
 Phe Met Tyr Ala Lys Pro Glu Ser Lys Ala Ser Val Asp Ser Gly Asn  
 260 265 270  
 Glu Asp Ile Ile Glu Ala Leu Ile Ser Leu Phe Tyr Gly Val Met Thr  
 275 280 285

Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys  
 290 295 300

Ala Ala Val Lys Asn Ile Leu Cys Arg Lys Asn Phe Ser Asp Gly Lys  
 305 310 315 320

<210> 39  
 <211> 973  
 <212> DNA  
 <213> Homo sapiens

<400> 39  
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 gatcctgctt ggaaatggag tccttatctc agttatcatc tttgattctc acctgcacac 180  
 ccccatgtat ttcttcctct gtaatctttc ctctcctcgac gtttgctaca caagttcctc 240  
 tgtcccacta attcttgcca gctttctggc agtaaagaaa aaggtttcct tctctgggtg 300  
 tatggtgcaa atgtttatatt cttttgccat gggggccacg gagtgcata tcttaggcac 360  
 gatggcactg gaccgccatg tggccatctg ctaccactg agataccctg tcatcatgag 420  
 caagggtgcc tatgtggcca tggcagctgg gtccctgggtc actgggcttg tggactcagt 480  
 agtgcagaca gcttttgcaa tgcagttacc attctgtgct aataatgtca tcaaacattt 540  
 tgtctgtgaa attctggcta tcttgaaact ggcctgtgct gatatttcaa tcaatgtgat 600  
 tagtatgaca gggtcgaatc tgattgttct gggtattcca ttgttagtaa tttccatctc 660  
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 ctctccacc tgctcagccc acctgacagt ggtgattata ttctatggaa ccacctctt 780  
 catgtacgca aagcctgagt ctaaagcctc tgttgattca ggtaatgaag acatcattga 840  
 ggccctcatc tcccttttct atggagtgat gaccccatg cttaatcctc tcatctatag 900  
 tctgcgaaac aaggatgtaa aggctgctgt caaaaacata ctgtgttagga aaaacttttc 960  
 tgatggaaaa tga 973

<210> 40  
 <211> 320  
 <212> PRT  
 <213> Homo sapiens

<400> 40  
 Met Glu Arg Thr Asn Asp Ser Thr Ser Ile Glu Phe Phe Leu Val Gly  
 1 5 10 15

Leu Ser Asp His Pro Lys Leu Gln Thr Val Phe Phe Val Leu Ile Leu  
 20 25 30

Trp Met Tyr Leu Met Ile Leu Leu Gly Asn Gly Val Leu Ile Ser Val

35	40	45
Ile Ile Phe Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Cys		
50	55	60
Asn Leu Ser Phe Leu Asp Val Cys Tyr Thr Ser Ser Ser Val Pro Leu		
65	70	75
Ile Leu Ala Ser Phe Leu Ala Val Lys Lys Lys Val Ser Phe Ser Gly		
	85	90
		95
Cys Met Val Gln Met Phe Ile Ser Phe Ala Met Gly Ala Thr Glu Cys		
	100	105
		110
Met Ile Leu Gly Thr Met Ala Leu Asp Arg His Val Ala Ile Cys Tyr		
	115	120
		125
Pro Leu Arg Tyr Pro Val Ile Met Ser Lys Gly Ala Tyr Val Ala Met		
	130	135
		140
Ala Ala Gly Ser Trp Val Thr Gly Leu Val Asp Ser Val Val Gln Thr		
145	150	155
		160
Ala Phe Ala Met Gln Leu Pro Phe Cys Ala Asn Asn Val Ile Lys His		
	165	170
		175
Phe Val Cys Glu Ile Leu Ala Ile Leu Lys Leu Ala Cys Ala Asp Ile		
	180	185
		190
Ser Ile Asn Val Ile Ser Met Thr Gly Ser Asn Leu Ile Val Leu Val		
	195	200
		205
Ile Pro Leu Leu Val Ile Ser Ile Ser Tyr Ile Phe Ile Val Ala Thr		
	210	215
		220
Ile Leu Arg Ile Pro Ser Thr Glu Gly Lys His Lys Ala Phe Ser Thr		
225	230	235
		240
Cys Ser Ala His Leu Thr Val Val Ile Ile Phe Tyr Gly Thr Ile Leu		
	245	250
		255
Phe Met Tyr Ala Lys Pro Glu Ser Lys Ala Ser Val Asp Ser Gly Asn		
	260	265
		270
Glu Asp Ile Ile Glu Ala Leu Ile Ser Leu Phe Tyr Gly Val Met Thr		
	275	280
		285
Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys		



290 295 300

Ala Ala Val Lys Asn Ile Leu Cys Arg Lys Asn Phe Ser Asp Gly Lys  
305 310 315 320